

# SUMMERTIME FUN

ELECTIVE ADVENTURE



## SNAPSHOT OF ADVENTURE



The summertime is a great time to get together with your den or pack. The requirement for this Adventure is simple. Participate in three Cub Scout activities during the summer months. This can be at council-organized camps, like day camp or resident camp, or it can be a den or pack get-together for a summertime picnic.

To earn this Adventure as a Bear, you participate in summer activities during the summer after you completed the second grade. If you are just now learning about this Adventure don't worry — the requirement to earn it as a Webelos Cub Scout is exactly the same.

### REQUIREMENTS

1. Anytime during May through August participate in a total of 3 Cub Scout activities.



- Elective Adventure
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## REQUIREMENT 1

Anytime during May through August participate in a total of three Cub Scout activities.

The summer is filled with fun Cub Scout activities. Below are just some things you, your den, or your pack may choose to do.



### Cub Scout Day Camp

Cub Scout day camps are held by local councils. Adults who serve as leaders for this camp are trained to put together fun activities. Day camp may be three to five days long. Each

day you arrive for a day filled with adventures and come home to share with your family what you did.

### Cub Scout Resident Camp

Cub Scout resident camps are held by local councils. Adults who serve as leaders for these camps are nationally trained and certified in all areas of camp. A resident camp takes place over several days and nights as you stay at camp the whole time, sleeping in a tent or other shelter.





### A Pack-Organized Event

Pack events during the summer may include a fun day at a park, a trek on a local trail, or a back-to-the-pack event right before school starts. It may even be an overnight campout.

### A Den-Organized Event

It can be fun to have your den get together for a visit to a museum, a zoo, or even a baseball game.



Date

Adult's Signature



# SUPER SCIENCE

ELECTIVE ADVENTURE



282 Bear

## SNAPSHOT OF ADVENTURE



Have you ever wondered why the sky is blue or how gravity works or what makes a rainbow? Scientists wonder about those things, too. Then, they figure out the answers using experiments.

## ANSWERING SCIENTIFIC QUESTIONS

Scientists try to create a fair test when they want to answer a question. The steps below can help you answer questions like a scientist.

1. Ask a question. (What do you want to discover?)
2. Do research. (What have other scientists already learned?)
3. Make a good guess at the answer. (This guess is called a hypothesis.)
4. Test your hypothesis with an experiment. (This is the fun part!)
5. Decide whether your hypothesis was supported by the information you collected.
6. Share what you discovered.

## REQUIREMENTS

1. Conduct a static electricity investigation.
2. Conduct the sink-or-float investigation.
3. Conduct the color-morphing investigation.
4. Conduct the color-layering investigation.

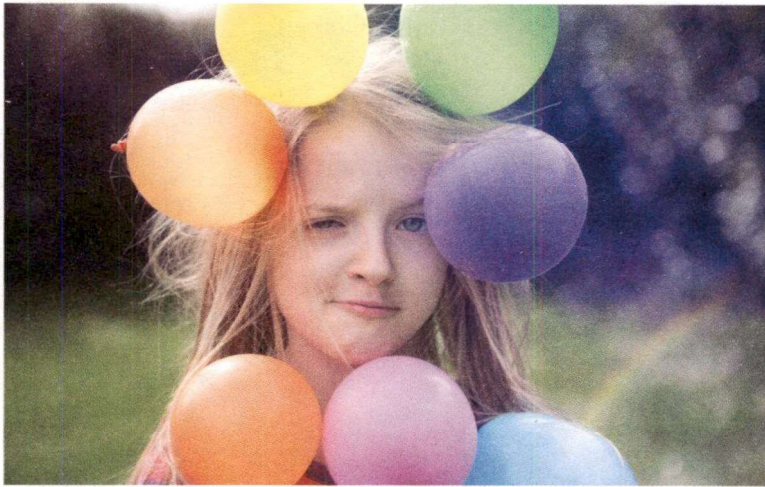


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## REQUIREMENT 1

Conduct a static electricity investigation.



You may have walked across a carpeted floor to pet your dog and gotten a shock. You may have taken off your winter hat and found that your hair was standing straight up in the air. Those things happen because of static electricity.

To understand static electricity, you have to understand atoms. Everything around us is made up of very small things called atoms. Those atoms are made up of even smaller things, including protons and electrons. Protons have a positive charge, and electrons have a negative charge. Each atom usually has the same number of protons and electrons, but if two atoms bump into each other, electrons from one atom can get rubbed off onto the other atom.

As you walk across a carpeted floor (especially if you drag your feet), extra electrons build up on your body. When you touch your dog, those electrons jump onto the dog, causing a little spark of static electricity.

Why does your hair stand up when you pull off your winter hat? That happens because all your individual hairs now have a positive charge and are repelling each other. (This is like trying to hold the positive sides of two magnets together.)

Static electricity also makes some things stick together, such as hiking socks and dryer sheets. For this requirement, try to make objects stick to an electrically charged balloon or comb. Blow up a balloon or take a comb and rub each of them separately against a fleece blanket or wool sweater. Then see what objects will stick to the balloon or comb. Discuss your findings with your den.

### TESTING STATIC ELECTRICITY

Which of these objects will stick to a balloon or comb? Write down your prediction and then write down what actually happened.

Object	Prediction	Result of investigation
Tissue paper		
Aluminum foil		
Cardboard scrap		
Paper scrap		
Yarn or string		
Pom-pom		
Chenille stem		
Ribbon		
Cloth		
Foam		
Coin		





Another investigation into static electricity is to fill a dry, empty plastic bottle with small foam beads (like the kind in bean bag chairs). Stand in front of a mirror and rub the bottle on your head. What happens to the beads?

Now, touch your other hand to the bottle. Do the beads move toward your hand or away from it? Experiment with other objects to check the reaction of the foam beads.



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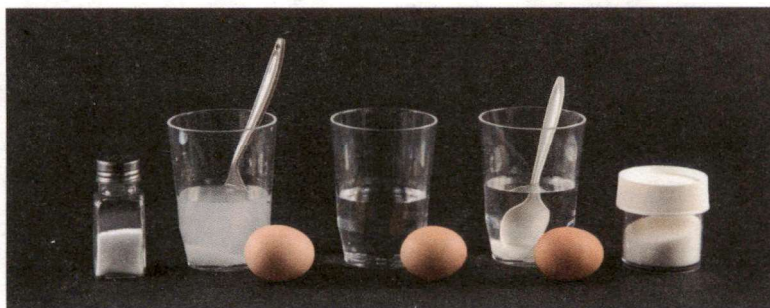
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Adult's Signature

## REQUIREMENT 2

Conduct the sink-or-float investigation.



Have you ever wondered if an egg would sink or float? Do you think adding anything to the water would change the outcome? Let's find out.

### Materials

- ▶ Three large cups that hold about 12 ounces each, all the same size
- ▶ Three fresh eggs
- ▶ 2 tablespoons of salt
- ▶ 2 tablespoons of sugar
- ▶ Water
- ▶ A spoon

### Instructions

1. Fill all three cups half full of water.
2. Stir the salt into the first cup and the sugar into the second cup.
3. Leave the third cup alone.
4. In the chart on the next page, write down what you think will happen when you add an egg to each cup.
5. Add an egg to each cup. Observe what happens to each egg and write down the results.

### SINK OR FLOAT

Will salt or sugar affect whether an egg floats? Write down your prediction, and then write down what actually happened.

Object	Prediction	Result of experiment
Cup 1 — Salt added		
Cup 2 — Sugar added		
Cup 3 — Nothing added		

How did your predictions compare to what you observed? Why do you think the eggs did different things?

This investigation shows how scientists use variables. A variable is something that changes. By changing just one variable at a time, you proved how sugar and salt affect how eggs float.

The plain water is called the control because it doesn't change. Since the control is the same in each cup, we can use it to compare the results with the salt and the sugar.



Date \_\_\_\_\_

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### REQUIREMENT 3

Conduct the color-morphing investigation.



You may have heard that oil and water don't mix. In fact, they will actually push away from each other if they are in the same space! To investigate this principle, you'll mix some food coloring into oil.

#### Materials

- ▶ A large jar or clear vase
- ▶ Water to fill the jar halfway
- ▶ A measuring cup
- ▶ A spoon
- ▶ 2 tablespoons of cooking oil
- ▶ 3 drops each of red, blue, and yellow liquid food coloring

#### Instructions

1. Fill the jar or vase halfway with water.
2. In the measuring cup, mix the oil and the food coloring together.
3. Pour this mixture slowly into the water and watch what happens. What is happening? Since food coloring is water-based, it will separate from the oil and float through the water in amazing color morphs. If you have time, try different color combinations.



Date

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## REQUIREMENT 4

Conduct the color-layering investigation.

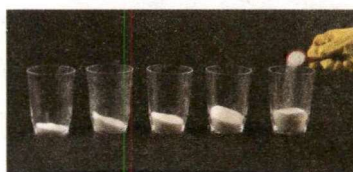
For this requirement, you'll create a rainbow in a cup using sugar, water, and food coloring.

### Materials

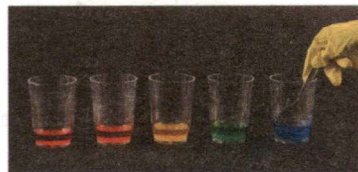
- ▶ 15 tablespoons of sugar
- ▶ 15 tablespoons of warm water
- ▶ Red, green, blue, and yellow liquid food coloring
- ▶ Six clear cups
- ▶ A spoon

### Instructions

1. Put five cups in a row on the table.
2. Add one tablespoon of sugar to the first cup, two tablespoons to the second cup, three to the third, four to the fourth, and five to the fifth.
3. Add three tablespoons of lukewarm water to each cup. Stir until most of the sugar dissolves.



4. Add a drop or two of food coloring to the first four cups, one color per cup. In the fifth cup, mix two colors.



5. Take the fifth cup (the one with the most sugar) and pour half of its contents into the sixth cup (the one that's empty).



6. Hold the spoon, bowl side up, against the inside of the sixth cup. Slowly and gently pour half the contents of the fourth cup onto the spoon. (Pouring onto the spoon keeps the two liquids from mixing in the cup.) Do the same thing with the third, second, and first cups.



What is happening? Adding sugar to the water causes it to become denser as the sugar molecules take over the space. The more sugar you add, the denser the water becomes. That's why you can "stack" the colored water as long as you pour it gently.



Date \_\_\_\_\_

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